UNITED STATES PATENT AND TRADEMARK OFFICE

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10/807,699	03/23/2004	Satoru Okamoto	10746/39	5620

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/15/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19,20,24,26,27,29,32 and 34-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19,20,24,26,27,29,32 and 34-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *6/28/2004*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 19, 20, 24, 26, 27, 29, 32, and 34-36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2.   In claims 19, 24, 27, and 32, each instance of "unit for" should be "means for". Claims 19, 24, 27, and 32 have been amended to change all instances of "means for [performing a function]" to "unit for [performing a function]". According to MPEP § 2114, "claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function." (citing to *In re Schreiber,* 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)). The term "unit" fails to specifically define any structure, such that any distinguishing characteristic of the "unit" limitation comes from the function the unit performs. Thus, claims containing only "unit" limitations fail to provide structure that can be used to compare the claims to the prior art. Under 35 U.S.C. 112, sixth paragraph, Applicant is permitted to claim a structure based on its function; however, to do so, Applicant must use the phrase "means for". MPEP § 2181(I). As such, by changing the phrase "unit for" to "means for", the claims will set forth a particular structure that can be used to compare the claims to the prior art.

3.   Claims 27 and 29 are objected to because of the following informalities: in claim 27, lines 4-6, "the second circuits converts a second STM signal in SDH, and the second circuits converts a second STM signal in SDH into second packets" should be "the second circuits convert a second STM signal in SDH into second packets" and in the last line of claim 27, "data

link process" should be "data link layer process" (as is recited in claims 24 and 32). Appropriate

correction is required.

4.   Claims 32 and 34 are objected to because of the following informalities: in claim 32, line

15, "fist SDH" should be "first SDH" and, in claim 32, line 25, "process; and." should be

"process.". Appropriate correction is required.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.   Claims 19, 20, 24, 26, 27, 29, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Donovan et al. (USPN 6,122,281) in view of Romeijn (USPN 5,457,691), of

record.

7.   Regarding claims 19, 24, 27, 32, 35, and 36, Donovan discloses a transmission system

comprising a plurality of transmission devices (Fig. 7 and col. 5, lines 46-60, where the

transmission system comprises a plurality of SONET/LAN interfaces, i.e. devices) each of which

comprises: a first circuit and a second circuit and a unit for establishing a connection to another

transmission device, wherein the first circuit converts first packets arriving at irregular intervals

into a first SPE signal in SONET (col. 6, lines 46-51), and the second circuits converts a second

SPE signal in SONET into second packets to be sent at irregular intervals (col. 6, lines 58-67),

the first circuit including: a unit configured to perform a first buffering process for the first

packets to convert the first packets into a first data stream (col. 4, lines 9-17); a unit configured

to map the first data stream into a SPE (col. 6, lines 47-51, where the packets are packed directly

into a SPE), a unit configured to generate the first SONET signal by adding at least one overhead

to data of the first SPE (col. 6, lines 50-51, where SONET transport overhead is appended to the

SPE to create a synchronous transport frame); and a unit configured to send the first STM signal

(col. 6, lines 58-59); the second circuit including: a unit configured to separate at least one

overhead from data of a second SPE in the second SONET (col. 6, lines 59-62, where the

SONET overhead is removed to yield the SPE); a unit configured to perform a second buffering

process of the data of the second SDH section payload to generate a second data stream (col. 10,

lines 39-45, where "receive FIFO" is a buffer, see also col. 12, lines 48-56); and a unit

configured to extract the second packets from the second data streams by using at least one data

link layer process (col. 12, lines 52-56, where a "MAC" is part of the data link layer).

Donovan does not expressly disclose that the packets are converted to/from STM signals

in SDH. Rather Donovan discloses that the packets are converted to/from SONET signals (Fig.

7 and col. 5, lines 46-60, where the transmission system comprises a plurality of SONET/LAN

interfaces, i.e. devices). However, Donovan further discloses that SONET is only one example

of a WAN protocol (col. 5, lines 53-60, where Donovan states "[i]n this example" the WAN is

SONET and that "[s]uitable LAN/WAN interfaces 76, 77 are known in the art"). Donovan also

discloses SDH "defines a subset of SONET transmission rates" (col. 2, lines 20-32). Romeijn,

which is analogous prior art, teaches that SDH is an international standard (col. 1, lines 9-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to replace the SONET protocol for the WAN of Donovan with the well-known

protocol of SDH, as taught in Romeijn, since one of ordinary skill in the art would have been able to carry out such a substitution, and the results were reasonably predictable.

Donovan does not expressly disclose converting the packets to/from a plurality of data streams. Rather, Donovan only expressly discusses converting packets to a single data stream (col. 7, line 58-col. 8, line 14). However, Donovan also discloses that the various devices communicate with multiple LANs (Fig. 7 and col. 5, line 51-col. 6, line 5). Donovan also discloses that each LAN transmits a relatively small amount of information with fill patterns being used to fill out the SONET stream (col. 1, lines 30-34, where LANs transmit a small amount of data, and col. 7, lines 16-21, where fill patterns are used). Romeijn, which is analogous prior art, teaches that signals are independently switched/cross-connected during transmission (col. 1, line 60-col. 2, line 5, see also col. 3, lines 25-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the system of Donovan buffer the packets to form a plurality of streams, with each stream corresponding to a different LAN, and then pack each stream into a different container or STM signal, as taught by Romeijn, to allow the different containers or STM signals to be switched/cross-connected to the appropriate LAN during transmission.

Donovan does not expressly disclose mapping the first data stream into a first SDH section payload without adding any overhead for upper layer transmission. Rather, Donovan discloses that path overhead is included in the transmission (col. 6, lines 14-18). Romeijn teaches, in an STM system, eliminating the VC-4 container overhead (col. 2, lines 55-65) to save time and circuitry that otherwise would be required to build a proper STM-1 frame including VC-4 (col. 3, lines 2-5). Romeijn further discloses multiplexing at the VC-12 level (col. 4, lines 4-7); however,

Romeijn recognizes that this results in nine unused columns after multiplexing (col. 4, lines 9-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to eliminate the VC-4 path overhead, as taught in Romeijn, in the system of Donovan,

to save time and circuitry. In addition, it would have been obvious to one of ordinary skill in the

art at the time of the invention to eliminate the VC-12 overhead and to multiplex the raw data

level to thereby effectively utilize all bandwidth available in an STM frame.

8.   Regarding claims 20, 26, 29, and 34, Donovan in view of Romeijn does not expressly

disclose that the packets are IP packets which are used for realizing a communication by the

Internet Protocol. However, Donovan in view of Romeijn does disclose that the LAN packet

may be any protocol (col. 6, lines 46-47). Examiner takes official notice that IP is a well-known

IP protocol. Therefore, it would have been obvious to one of ordinary skill in the art at the time

of the invention to use IP as the LAN protocol because one of ordinary skill in the art would

have been able to carry out such a substitution and the results were reasonably predictable.

Conclusion

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL J. RYMAN whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571)272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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